

Application No. 09/682,895
D/A 1029

REMARKS

Claims 12-15, 19-22 and 33-44 are pending in this application. By this Amendment, claims 12, 13, 19 and 20 are amended. No new matter is added. Reconsideration of the application is respectfully requested.

Entry of the amendments is proper under 37 CFR §1.116 since the amendments: (a) place the application in condition for allowance (for the reasons discussed herein); (b) do not raise any new issue requiring further search and/or consideration (since the amendments amplify issues previously discussed throughout prosecution); (c) satisfy a requirement of form asserted in the previous Office Action; (d) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (e) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection and discussions during the personal interview. As such, the amendments do not raise new issues and thus are enterable. Entry of the amendments is thus respectfully requested.

Applicant thanks Examiner Sorkin for the courtesies extended to Applicant's representatives during the February 18 personal interview. During the interview, the 35 U.S.C. §112 rejection and differences between the claims and the applied art were discussed.

I. Formal Matter

A. The Office Action objects to claims 22 and 36 under 37 C.F.R. §1.75(c). The Office Action also rejects claims 22 and 36 under 35 U.S.C. §112, second paragraph. These objections and rejections are respectfully traversed.

Claim 12 recites that a micromachined filter integrated in at least one of micromachined layers and that a portion of each layer that comprises the micromachined filter

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consists of substantially parallel beams. That is, beams in a given micromachined layer are substantially parallel.

Claim 22 recites a first series of substantially parallel beams formed in a first micromachined layer, and a second series of substantially parallel beams formed in a second micromachined layer. Claim 22 also recites that the first series of beams and the second series of beams extend in non-parallel directions with respect to each other.

In other words, the beams of the first series of beams are substantially parallel, while the beams of the second series of beams are also substantially parallel.

Accordingly, Applicant respectfully submits that claims 22 and 36 do further limit the subject matter of claim 12, and are not inconsistent with claim 12. Therefore, claims 22 and 36 properly depend from claim 12. As such, withdrawal of these objections and rejections is respectfully requested.

B. The Office Action rejects claims 12-15, 19-22 and 33-44 under 35 U.S.C. §112, first paragraph. This rejection is respectfully traversed.

Claims 12, 13, 19 and 20 are amended to recite that a portion of the layer consists of a substantially parallel beams or columns, as discussed during the interview. In addition, as discussed during the interview, Figs. 2 and 7 respectively support the claim language.

As shown in Fig. 2, for example, the micromachined filter 100 is provided at a portion of a polysilicon layer 220. See also page 8, lines 1-4. Substantially parallel beams are provided at this portion to form the filter 100. During the interview, Examiner Sorkin asserted that electrodes 222 are also provided on layer 220. However, as explained during the interview and shown in Fig. 2, the electrodes 222 are not provided at the portion where the filter 100 is provided. Therefore, the filter 100 is formed only by the substantially parallel

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bars 110 and 112. As such, the term "consists of" is proper. Accordingly, Applicant respectfully requests withdrawal of this rejection.

C. Fig. 1 is corrected to remove shading shown in the background for better clarity.

II. The Pending Claims Define Patentable Subject Matter

A. The Office Action rejects claims 12, 13, 15, 19, 20, 22, 34, 36-38 and 41-44 under 35 U.S.C. §102(e) over U.S. Patent No. 6,503,409 to Fleming. This rejection is respectfully traversed.

Claim 12 is directed to a micromachined filter system. During the interview, the Examiner Sorkin explained that "micromachined" is considered to mean only that the devices are very small. However, as described in the enclosed copy of the Sixth Edition of McGraw-Hill Dictionary of Scientific and Technical Terms (McGraw-Hill Dictionary), the term "micromachined" has a specific meaning. A "micromachine" is a micrometer-size mechanical device, and the term "micromachining" is defined as the use of standard semiconductor process technologies in combination with specially developed processes to fabricate miniature mechanical devices and components on silicon and other materials. Thus, a micromachined filter system is a micrometer-sized device that is fabricated using micromachining techniques.

The Fleming device is specifically directed to nanotechnologies. As described in the McGraw-Hill Dictionary, nanotechnology relates to techniques that produce or measure features less than 100 nanometers in size. Further, nanotechnology systems are "based on nanometer-scale components with precisely defined molecular features" (emphasis added). Thus, the Fleming device is not a micromachined device. As such, claim 12 is not anticipated by Fleming.

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In addition, one of ordinary skill in the art would not have been motivated to modify the nanotechnology device of Fleming to achieve a micromachined device because doing so would render the nano-technology device unsuitable for its intended purpose. That is, if the Fleming device were modified to enlarge it to the micrometer size, it would no longer have the "precisely defined molecular feature" necessary for its operation.

If the proposed modification of the prior art would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. See MPEP §2143.02.

At least for the reasons discussed above, Applicant respectfully requests withdrawal of this rejection.

B. The Office Action rejects claims 39 and 40 under 35 U.S.C. §103(a) over Fleming. This rejection is respectfully traversed.

Claims 39 and 40 are allowable at least for their dependence on allowable base claims 12 and 19. As such, withdrawal of this rejection is respectfully requested.

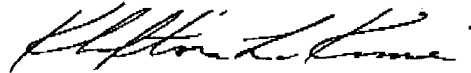
III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 12-15, 19-22 and 33-44 are earnestly solicited.

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Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Klifton L. Kime
Registration No. 42,733

JAO:KXH/kzb

Attachment:

Copy of Sixth Edition of McGraw-Hill of Scientific and Technical Terms
Fig. 1

Date: March 5, 2004

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On the cover: Representation of a fullerene molecule with a noble gas atom trapped inside. At the Permian-Triassic sedimentary boundary the noble gases helium and argon have been found trapped inside fullerenes. They exhibit isotope ratios quite similar to those found in meteorites, suggesting that a fireball meteorite or asteroid exploded when it hit the Earth, causing major changes in the environment. (Image copyright © Dr. Lwonn Becker. Reproduced with permission.)

Over the six editions of the Dictionary, material has been drawn from the following references: G. M. Garrity et al., *Taxonomic Outline of the Prokaryotes*, Release 2, Springer-Verlag, January 2000; D. W. Linzey, *Vertebrate Biology*, McGraw-Hill, 2001; J. A. Pocheuk, *Biology of the Invertebrates*, 4th ed., McGraw-Hill, 2000; U.S. Air Force Glossary of Standardized Terms, AF Manual 11-1, vol. 1, 1972; F. Casey, ed., *Compilation of Terms in Information Sciences Technology*, Federal Council for Science and Technology, 1970; *Communications-Electronics Terminology*, AF Manual 11-1, vol. 3, 1970; P. W. Thrush, comp. and ed., *A Dictionary of Mining, Mineral, and Related Terms*, Bureau of Mines, 1968; *A DOD Glossary of Mapping, Charting and Geodetic Terms*, Department of Defense, 1967; J. M. Gilliland, *Solar-Terrestrial Physics: A Glossary of Terms and Abbreviations*, Royal Aircraft Establishment Technical Report 67158, 1967; W. H. Allen, ed., *Dictionary of Technical Terms for Aerospace Use*, National Aeronautics and Space Administration, 1963; *Glossary of Surface Terminology*, Office of Aerospace Research, U.S. Air Force, 1963; *Naval Dictionary of Electronic, Technical, and Imperative Terms*, Bureau of Naval Personnel, 1962; R. E. Husehke, *Glossary of Meteorology*, American Meteorological Society, 1959; *ADP Glossary*, Department of the Navy, NAVSO P-1097; *Glossary of Air Traffic Control Terms*, Federal Aviation Agency; *A Glossary of Range Terminology*, White Sands Missile Range, New Mexico, National Bureau of Standards, AD 467-424; *Nuclear Terms: A Glossary*, 2d ed., Atomic Energy Commission.

McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS, Sixth Edition

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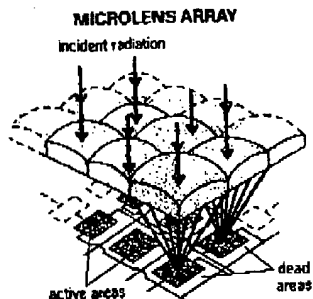
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microlens array



The array focuses all of the incident light onto the active areas of a detector array, thereby enhancing efficiency.

MICROMETER



Machinist's outside caliper with micrometer reading 0.250 inch (6.35 millimeters), showing component parts. (L. S. Starrett Co.)

microlens array [OPTICS] An array of very small lenses with diameters between 20 micrometers and 1 millimeter; used in a variety of applications, including integral photography, photocopying, facsimile, and high-speed parallel switching networks. [*'mī-kro, lenz ā, rā*]

microlensing [ASTRON] A phenomenon in which a foreground star acts as a gravitational lens when it happens to pass in front of a background star, causing the background starlight to brighten and bend through a ring-shaped region. [*'mī-kro, lenz-īŋ*]

Microlithoptera [INV ZOO] A former division of Lepidoptera. [*'mī-kro, lep-ō'dīp-tā-rā*]

microlite [CRYSTAL] A microscopic crystal which polarizes light. Also known as microlith. [MINERAL] (Na,Ca)-(Ta,Nb)₂O₆(OH,F) A pale-yellow, reddish, brown, or black isometric mineral composed of sodium calcium tantalum oxide with a small amount of fluorine; it is isomorphous with pyrochlore. Also known as djalmite. [*'mī-kra, līt*]

microlith See microlite. [MED] A calculus of microscopic size. [*'mī-kro, lith*]

microlithiasis [MED] The presence of numerous microliths. [*'mī-kro-lī-thī-ā-sīs*]

microlithiasis alveolaris pulmonum [MED] A rare form of pulmonary calcification of unidentified etiology in which microliths, and larger osseous nodules, are found. [*'mī-kro-lī-thī-ā-sīs, al-vē-ā-lar-ās pol'mō-nām*]

microlithography [MATER] The transfer of a pattern or image from one medium to another, as from a mask to a wafer, with image features in the micrometer range or smaller. [*'mī-kro-lī-thī-ŋ-grā-fē*]

microlithology [PETR] Microscopic study of the characteristics of rocks. [*'mī-kro-lī-thī-ŋ-lō-jē*]

microlitic [PETR] Of the texture of a porphyritic igneous rock, having a groundmass composed of an aggregate of microlites in a generally glassy base. [*'mī-kra, līt-ik*]

microlot [ELECTR] 1. Satellite telemetry system that uses phase-lock techniques in the ground receiving equipment to achieve extreme sensitivity. 2. A lock by a tracking station upon a minitrack radio transmitter. 3. The system by which this lock is effected. [*'mī-kra, lōt*]

microlot [PETRO ENG] A drill-hole resistivity log recorded with electrodes mounted at short distances from each other in the face of a rubber-padded microresistivity sonde. [*'mī-kro, lōt*]

micromachine [MATER] A micrometer-size mechanical device; compared with an integrated circuit, it has some mechanical parts that stand above the substrate or move freely over it. [*'mī-kro-mā-shēn*]

micromachining [ENG] The use of standard semiconductor process technologies in combination with specially developed processes to fabricate miniature mechanical devices and components on silicon and other materials. [*'mī-kro-mā-shēn-īŋ*]

micromainframe [COMPUT SCI] A main frame of a computer placed on one or more integrated circuit chips. [*'mī-kro-mān-frām*]

Micromalthidae [INV ZOO] A family of coleopteran insects in the superfamily Cantharoidea; the single species is the telephone pole beetle. [*'mī-kro-māl-thā-dē*]

micromania [PSYCH] A delusional state in which the patient believes himself diminutive in size and mentally inferior. [*'mī-kro-mā-nē-ā*]

micromanipulation [BIOL] The techniques and practice of microdissection, microvivisection, microisolation, and microinjection. [*'mī-kro-mā-nip-yā-lā-shēn*]

micromanipulator [ENG] A device for holding and moving fine instruments for the manipulation of microscopic specimens under a microscope. [*'mī-kro-mā-nip-yā-lā-ōr*]

micromanometer [ENG] Any manometer that is designed to measure very small pressure differences. [*'mī-kro-mā-nīm-ō-ōr*]

micromaser See single-atom laser. [*'mī-kra, māz-ōr*]

micromechanical display [ENG] A video display based on an array of mirrors on a silicon chip that can be deflected by electrostatic forces. Abbreviated MMD. [*'mī-kro-mā, kan-i-kal dī'splā*]

micromechanics [ENG] 1. The design and fabrication of micromechanisms. 2. See composite micromechanics. [*'mī-kro-mā-kan-iks*]

micromechanism [ENG] A mechanical component with submillimeter dimensions and corresponding tolerances of the order of 1 micrometer or less. [*'mī-kro-mē-kā-nīz-əm*]

micromechatronics [ENG] The branch of engineering concerned with micro-electro-mechanical systems. [*'mī-kro-mē-kā-trō-niks*]

micromere [EMBRYO] A small blastomere of the upper or animal hemisphere in eggs that undergo uneven cleavage. [*'mī-kra, mīr*]

micrometeorite [ASTRON] A very small meteorite or meteoritic particle with a diameter generally less than a millimeter. [*'mī-kro-mē-dē-ō, mī*]

micrometeorite penetration [AERO ENG] Penetration of the thin outer shell (skin) of space vehicles by small particles traveling in space at high velocities. [*'mī-kro-mē-dē-ō, mī-pen-ō-trā-shān*]

micrometeoroid [ASTRON] A very small meteoroid with diameter generally less than a millimeter. [*'mī-kro-mē-dē-ō, rōid*]

micrometeorology [METEOROL] That portion of the science of meteorology that deals with the observation and explanation of the smallest-scale physical and dynamic occurrences within the atmosphere; studies are confined to the surface boundary layer of the atmosphere, that is, from the earth's surface to an altitude where the effects of the immediate underlying surface upon air motion and composition become negligible. [*'mī-kro-mē-dē-ō-rīl-ō-jē*]

micrometer [ENG] 1. An instrument attached to a telescope or microscope for measuring small distances or angles. 2. A caliper for making precise measurements; a spindle is moved by a screw thread so that it touches the object to be measured; the dimension can then be read on a scale. Also known as micrometer caliper. [MECH] A unit of length equal to one-millionth of a meter. Abbreviated μm . Also known as micron (μ). [*'mī-kram-ōd-ōr*]

micrometer caliper See micrometer. [*'mī-kram-ōd-ōr 'kal-ō-pār*]

micrometer of mercury See micron. [*'mī-kram-ōd-ōr ōv 'mōr-kyā-rē*]

micromicro- See pico-. [*'mī-kro'mī-kro*]

micromicrowatt See picowatt. [*'mī-kro'mī-kro-wāt*]

micromini [COMPUT SCI] The central processing unit of a minicomputer placed on one of more integrated circuit chips. [*'mī-kro-mīn-ē*]

microminiature circuitry See microcircuitry. [*'mī-kro-mīn-ā-char 'sār-kō-trē*]

microminiaturization See microelectronics. [*'mī-kro-mīn-ā-chē-rā-zā-shān*]

micromodule [ELECTR] Cube-shaped, plug-in, miniature circuit composed of potted microelements; each microelement can consist of a resistor, capacitor, transistor, or other element, or a combination of elements.

micromolding [ENG] An alternative technique to micromachining for fabricating microsystems, in which a sacrificial material serves as a mold to which a deposited material conforms. [*'mī-kro-mōld-īŋ*]

Micromonospora [MICROBIO] A genus of bacteria in the family Micromonosporaceae; the mycelium is well developed, branched, and septate; single spores are formed on hyphae.

Micromonosporaceae [MICROBIO] A family of bacteria in the order Actinomycetales; aerial hyphae are formed in all genera except *Micromonospora*; saprophytic soil organisms.

Micromonospora purpurea [MICROBIO] The bacterium that produces the antibiotic gentamycin.

micromotion film [INV ENG] A record of a specific task made with motion picture film or video tape in which each component of the activity is recorded in an individual frame. [*'mī-kro-mō-shōn 'fīlm*]

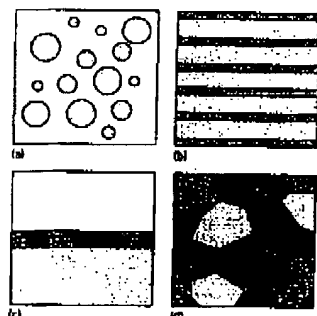
micromotion study See memomotion study. [*'mī-kro-mō-shān 'stōd-ē*]

micromotor [MATER] A micromachine and forerunner of micro-electro-mechanical systems. [*'mī-kra, mōd-ōr*]

micron [MECH] 1. A unit of pressure equal to the pressure exerted by a column of mercury 1 micrometer high, having a density of 13.5951 grams per cubic centimeter, under the standard acceleration of gravity; equal to 0.133322387415 pascal; it differs from the millitorr by less than one part in seven million. Also known as micrometer of mercury. 2. See micrometer. [*'mī, krān*]

naphthalin

NANOSTRUCTURED MATERIAL



Schematic of four basic types of nanostructured materials, classified according to integral modulation dimensionality. (a) Dimensionality 0: clusters of any aspect ratio from 1 to infinity. (b) Dimensionality 1: multilayers. (c) Dimensionality 2: ultrafine-grained overlayers (coatings) or buried layers. (d) Dimensionality 3: nanophase materials. (After R. W. Siegel, Nanostructured materials: Mind over matter, Nanostruct. Mat., 3:1-18, 1993)

naked T Tauri star See weak-line T Tauri star. (ˈnæk-əd ˈtɔːr-ē ˈstɜːr)

nekhlite [GEOL] An achondritic stony meteorite composed of an aggregate of diopside and olivine. (ˈnæk.lɪt)

nealed [ORG CHEM] $C_6H_5Br_2ClO_4$ A white solid with a melting point of 27°C; slight solubility in water; used as an insecticide and miticide for crops, farm buildings, and kennels, and for mosquito control. (ˈnæl-əd)

neolidic acid [PHARM] $C_{12}H_{12}N_2O_3$ Pale buff, crystalline powder; melting point is 229–230°C; soluble in chloroform and in potassium hydroxide and sodium hydroxide solutions; used as an antibacterial drug in humans and animals. (ˈnæl-ɪdɪk ˈsɪk ˈæs-əd)

nalrexone [PHARM] $C_{20}H_{21}NO_4$ An opiate receptor antagonist that blocks the effects of endogenous opioids in the brain; used to treat alcoholism. (ˈnælˈrɛk.sən)

Namneretidae [INV ZOO] A subfamily of largely freshwater errantian annelids in the family Nereidae. (ˈnæ-məˈnɛr-ē-tɪd)

Namurian [GEOLOG] A European stage of geologic time; divided into a lower stage (Lower Carboniferous or Upper Mississippian) and an upper stage (Upper Carboniferous or Lower Pennsylvanian). (ˈnæˈmɪr-ē-ən)

nancy receiver See infrared receiver. (ˈnæns ˈrɪˌsɪv-ər)

NAND [MATH] A logic operator having the characteristic that if P, Q, R, ... are statements, then the NAND of P, Q, R, ... is true if at least one statement is false, false if all statements are true. Derived from NOT-AND. Also known as sheffer stroke. (ˈnænd)

NAND circuit [ELECTR] A logic circuit whose output signal is a logical 1 if any of its inputs is a logical 0, and whose output signal is a logical 0 if all of its inputs are logical 1. (ˈnænd ˈsɜːk-ɪt)

nanism [MED] Dwarfed stature due to arrested development. (ˈnæˌnɪz-əm)

nannandrous [BOT] Pertaining to species of plants in which male members are markedly smaller than females, such as in some algal species of *Oedogonium* that have antheridia produced in special dwarf filaments. (ˈnænˈnænd-rəs)

nannoplankton [BIOL] Minute plankton; the smallest (usually from 2 to 20 nanometers) plankton, including algae, bacteria, and protozoans. Also spelled nanoplankton. (ˈnæn-əˈplæŋk-tən)

nano- [BIOL] A prefix meaning dwarfed. [MATH] A prefix representing 10^{-9} , which is 0.000000001 or one-billionth of the unit adjoined. (ˈnæm-ə)

nanoccephalus [MED] A fetus with an undersized head. (ˈnæn-əˈsef-ə-ləs)

nanoelectrochemistry [CHEM] The study of the synthesis and analysis of materials in the nanoscale range (1–10 nanometers), including large organic molecules, inorganic cluster compounds, and metallic or semiconductor particles. (ˈnæn-əˈkem-əˈstri)

nanocomposite [MATER] A material that results from the intimate mixture of two or more nanophase materials. (ˈnæn-əˈkəmˈpɒz-ɪt)

nanocomposite material See nanostructured material. (ˈnæn-əˈkəmˈpɒz-ɪt məˈtɪr-ɪ-əl)

nanoelectronics [ELECTR] The technology of electronic devices whose dimensions range from atoms up to 100 nanometers. (ˈnæn-ə-ɪˌlekˈtrɒn-iks)

nanogram [MECH] One-billionth (10^{-9}) of a gram. Abbreviated ng. (ˈnæn-əˈɡræm)

nanometer [MECH] A unit of length equal to one-billionth of a meter, or 10^{-9} meter. Also known as millimicron (μ m). (ˈnæn-əˈmɛt-ər)

nanon See nanometer. (ˈnæn-ən)

nanophanerophyte [ECOL] A shrub not exceeding 6.6 feet (2 meters) in height. (ˈnæn-əˈfæn-ə-rɪ-faɪt)

nanophase material [MATER] 1. A material made up of phases that have dimensions of the order of nanometers. 2. An ultrafine single solid phase where at least one dimension is in the nanometer range, and typically dimensions are in the 1–20-nanometer range. (ˈnæn-əˈfæz məˈtɪr-ɪ-əl)

nanophthalmus See microphthalmus. (ˈnæn-əˈθal-məs)

nanoplankton See nannoplankton. (ˈnæn-əˈplæŋk-tən)

nanosecond [MECH] A unit of time equal to one-billionth of a second, or 10^{-9} second. (ˈnæn-əˈsek-ənd)

nanostucture [SOLID STATE] Something that has a physical

dimension smaller than 100 nanometers, ranging from clusters of atoms to dimensional layers. (ˈnæn-əˈstrʌktʃər)

nanostuctured material [MATER] A material whose composition is modulated over nanometer length scales in zero, one, two, or three dimensions. Also known as nanocomposite material. (ˈnæn-əˈstrʌktʃəd məˈtɪr-ɪ-əl)

nanotechnology [ENG] 1. Systems for transforming matter, energy, and information that are based on nanometer-scale components with precisely defined molecular features. 2. Techniques that produce or measure features less than 100 nanometers in size. (ˈnæn-əˈtekˈnɒlə-dʒi)

nanozooid [INV ZOO] Dwarf zooid; bryozoan heterozooid possessing only a single tentacle. (ˈnæn-əˈzɔɪd)

Nansen bottle [ENG] A bottlelike water-sampling device with valves at both ends that is lowered into the water by wire; at the desired depth it is activated by a messenger which strikes the reversing mechanism and inverts the bottle, closing the valves and trapping the water sample inside. Also known as Petterson-Nansen water bottle; reversing water bottle. (ˈnæn-sən ˈbɒtl-əl)

Nansen cast [OCEANOGR] A series of Nansen-bottle water samples and associated temperature observations resulting from one release of a messenger. (ˈnæn-sən ˈkæst)

nanotekite See cuprous chloride. (ˈnæn-ˈtɛk-ɪt)

nap [TEXT] Fuzzy fibers on the surface of a fabric; produced by a finishing process called raising. (ˈnæp)

napalm [MATER] 1. Aluminum soap in powder form, used to gelatinize oil or gasoline for use in napalm bombs or flame throwers. 2. The resultant gelatinized substance. (ˈnæˌpælm)

napalm bomb [ORD] A bomb filled with napalm; primarily an antipersonnel weapon. (ˈnæˌpælm ˈbɒm)

nappe [ANAT] The back of the neck. (ˈnæp)

Naperian logarithm See logarithm. (ˈnæˈpiəri-ən ˈlɒg-ə-rɪθ-m)

napex [ANAT] That portion of the scalp just below the occipital protuberance. (ˈnæˌpeks)

naphtha [MATER] 1. Petroleum fraction with volatility between gasoline and kerosene; used as a gasoline ingredient, solvent for paints and rubber, and cleaning solvent. 2. Aromatic solvent from coal tar, either solvent naphtha or heavy naphtha. (ˈnæf-thə)

naphthalene [ORG CHEM] $C_{10}H_8$ A hydrocarbon molecule that may be considered to be four benzene rings fused together; it is explosive when shocked; used in organic synthesis. Also known as rubene; tetracene. (ˈnæf-thəˌlen)

naphthalene gas [MATER] Illuminating gas charged with a low-boiling-point fraction of distilled naphtha. (ˈnæf-thə ˈɡæz)

naphthalan [MATER] Soft, greenish-black mass distilled from Armenian naphtha; soluble in ether and hydrocarbons, insoluble in water; melts at 70°C; used in medicine. Also known as naptalan. (ˈnæf-thəˌlæn)

naphthalene [ORG CHEM] $C_{10}H_8$ White, volatile crystals with coal tar aroma; insoluble in water, soluble in organic solvents; structurally it is represented as two benzene rings fused together; boiling point 218°C, melting point 80.1°C; used for moth repellents, fungicides, lubricants, and resins, and as a solvent. Also known as naphthalin; tar camphor. (ˈnæf-thəˌlen)

naphthalenesulfonamide [ORG CHEM] $C_{10}H_7NO_2$ A colorless solid with a melting point of 183°C; used as a growth regulator for root cuttings and for thinning of apples and pears. (ˈnæf-thəˌlen-əˈsɪd-ə-məd)

naphthaleneacetic acid [ORG CHEM] $C_{10}H_7CH_2COOH$ White, odorless crystals, melting at 132–135°C; soluble in organic solvents, slightly soluble in water; used as an agricultural spray. Abbreviated NAA. Also known as 1-naphthylacetic acid. (ˈnæf-thəˌlen-əˈsɪd-ɪk ˈæs-əd)

naphthalene-1,5-disulfonic acid [ORG CHEM] $C_{10}H_6(SO_3H)_2$ White crystals, decomposing when heated; used to make dyes. Also known as Armstrong's acid. (ˈnæf-thəˌlen-ˈwaɪˌdɪˌsʌlˈfɪn-ɪk ˈæs-əd)

1-naphthalenesulfonic acid [ORG CHEM] $C_{10}H_7SO_3H$ A crystalline compound with a melting point of 90°C (dihydrate); soluble in water or alcohol; used to make α -naphthol. (ˈwʌn ˈnæf-thəˌlen-ˈsʌlˈfɪn-ɪk ˈæs-əd)

naphthoic acid See phthalic acid. (ˈnæf-thal-ɪk ˈæs-əd)

naphthalin See naphthalene. (ˈnæf-thəˌlen)